

I(P)GS-L6408XSFP

8 10/100/1000T + 4 1G/2.5G/10G SFP+ (w/8 PoE bt/at/af) L2+
Industrial Managed Ethernet Switch; 24V/48V input models



OVERVIEW

Lantech I(P)GS-L6408XSFP is a high performance OS3 Industrial Ethernet switch with 8 10/100/1000T + 4 1G/2.5G/10G auto sensing SFP+ (w/8 802.3at/af/bt PoE ports) which provides advanced security function for network aggregation deployment.

Up to 8 PoE bt/at/af ports w/advanced PoE management; Ethernet power input galvanic isolation

Compliant with 802.3bt standard, the PoE model is able to feed each PoE port up to 60 Watt (-PBT model) at each PoE port for various IP PD devices. It supports advanced PoE management including PoE detection and scheduling. PoE detection can detect if the connected PD hangs then restart the PD; PoE scheduling is to allow pre-set power feeding schedule upon routine time table. Each PoE ports can be Enabled/disabled, get the voltage, current, Watt, and temperature info displayed on WebUI.

Galvanic isolation between power input and Ethernet power system, also the PoE galvanic isolation provides insulation between the power input to PoE Ethernet ports, preventing cabling and grounding incidents from damaging the Ethernet switch. The efficiency of the galvanically decoupled voltage converters can reach above 90%.

Lantech OS3 Platform with complete L2 management and upgradable optional L3 & communication protocols

The switch runs Lantech OS3 platform which is powerful with complete Layer 2 management features and optional upgradable for future expansion, such as Layer 3 Lite, Layer 3, etc. To learn more about the Lantech OS3 Platform, please refer to [Lantech OS3/OS4 Software Datasheet](#)

Enhanced cybersecurity features with IEC 62443-4-1 certification

Lantech OS3 platform is designed with high standard of cybersecurity to prevent the threats from network attack such as DDoS attacks. To ensure the safety and reliability of communication networks, Lantech develops our products under strict international security standard and is certified with IEC 62443-4-1 network security standard. To learn

more about Lantech cybersecurity software solution, please refer to [Lantech OS3/OS4 Software Datasheet](#)

Miss-wiring avoidance, node failure protection, Loop protection

The switch also embedded several features for strong and reliable network protection in an easy and intuitive way. When the pre-set ring configuration failed or looped by miss-wiring, the switch being able to alert with the LED indicator and disable ring automatically. Node failure protection ensures the switches in a ring to survive after power breakout is back. The status can be shown in NMS when each switch is back. Loop protection is also available to prevent the generation of broadcast storm when a dumb switch is inserted in a closed loop connection.

User friendly GUI, Auto topology drawing, Enhanced Environmental Monitoring

The user-friendly UI, innovative auto topology drawing and topology demo makes the switch much easier to get hands-on. The complete CLI enables professional engineer to configure setting by command line. It supports enhanced environmental monitoring for actual input voltage, current, ambient temperature and total power load.

Editable configuration file; USB port for import/export configuration

The configuration file of the switch can be imported and edited with word processor for the following switches to configure with ease. The USB port can import/export the configuration from/to USB dongle and also to upgrade firmware from USB dongle. TFTP/HTTP firmware upgrade is supported.

Event log & message; 2DI + 2DO; Factory reset button

The switch provides 2DI and 2DO. When disconnection of the specific port was detected; DO will activate the signal LED to alarm. DI can integrate the sensors for events and DO will trigger the outside alarm and switch will send alert information to IP network with traps. The factory reset button can restore the setting back to factory default.

PoE models: Dual power 24VI/48V input, high PoE budget

The PoE model is designed with dual power supply at 9V~36VDC input (24VI model) and can provide 80W (24V input) PoE budget. The 48V model can support dual power 44VDC~56VDC input and can have 240W PoE budget. The PoE galvanic isolation is built in for 24VI models.

Non PoE models: 24VI input voltage selection

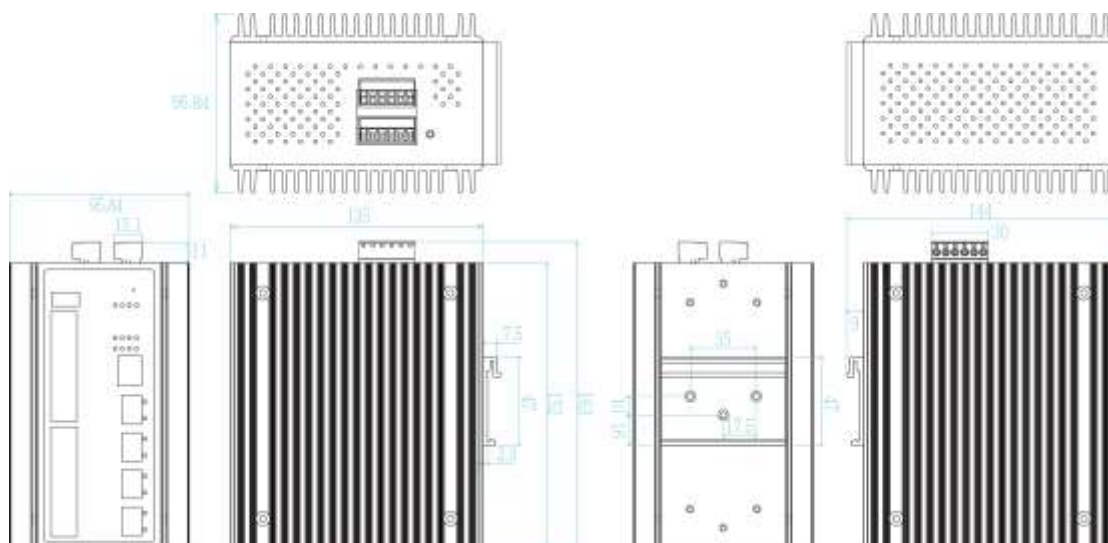
The non-PoE model is designed with dual power supply at 9V~36VDC input (24VI model). The switch is able to work at dual 24VDC. The Ethernet galvanic isolation is built in.

Industrial hardened design with high EFT and ESD protection

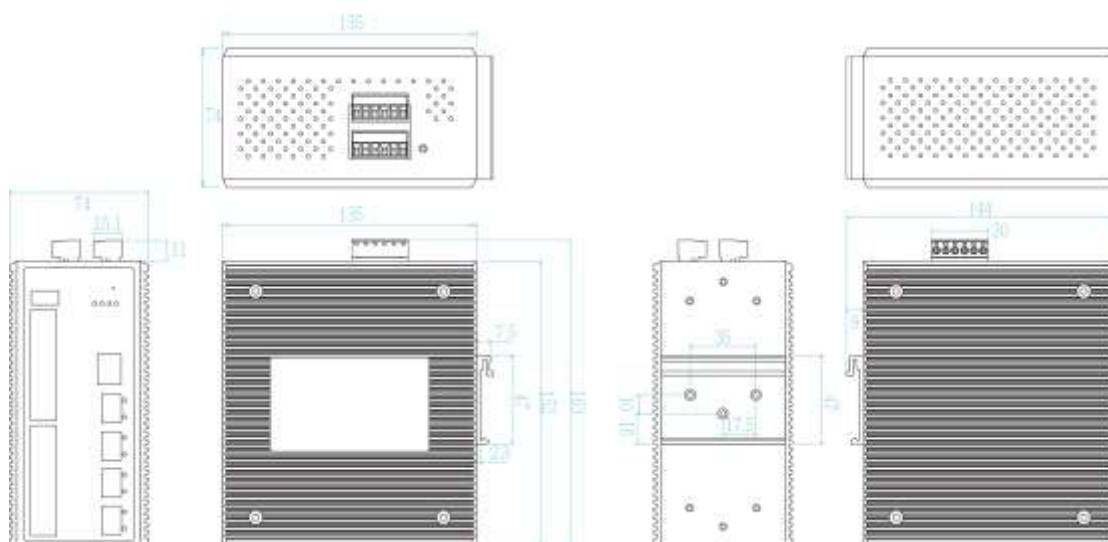
The switch features high reliability and robustness coping with extensive EMI/RFI phenomenon, environmental vibration and shocks usually found in factory, substation, steel automation, aviation, mining and process control. It is the best solution for Automation, transportation, autonomous vehicles, surveillance, Wireless backhaul, Semi-conductor factory applications. The -E model can be used in extreme environments with an operating temperature range of -40°C to 75°C.

DIMENSIONS (unit=mm)

IPGS-L6408XSFP



IGS-L6408XSFP



SPECIFICATIONS

Hardware Specification	
Standards	IEEE802.3 10Base-T Ethernet
	IEEE802.3u 100Base-TX
	IEEE802.3ab 1000Base-T
	IEEE802.3x Flow Control and Back Pressure
	IEEE802.3ad Port trunk with LACP
	IEEE802.1d Spanning Tree
	IEEE802.1w Rapid Spanning Tree
	IEEE802.1s Multiple Spanning Tree
	IEEE802.3ad Link Aggregation Control Protocol (LACP)
	IEEE802.1AB Link Layer Discovery Protocol (LLDP)
	IEEE802.1X User Authentication (Radius)
	IEEE802.1p Class of Service
	IEEE802.1Q VLAN Tag
	IEEE802.3at/af Power over Ethernet (PoE)
	model)
	IEEE802.3bt Power over Ethernet (PoE -PBT model)
Switch Architecture	Back-plane (Switching Fabric): 96Gbps
Forwarding rate	71.43Mpps
Mac Address	16K MAC address table
Jumbo frame	10KB
Connectors	10/100/1000T: 8 x ports RJ-45 with Auto MDI/MDI-X function Mini-GBIC: 4 x 1G/2.5G/10G SFP socket with DDMI RS-232 connector: RJ-45 type USB x 1 Power connector: 1 x 6-pole terminal block DIDO: 1 x 6-pole terminal block
Network Cable	100Base-TX: 2-pair STP Cat. 5/ 5E/ 6 cable:

	EIA/TIA-568 100-ohm (100m) 1000Base-T: 4-pair STP Cat5E/6 cable; 10GBaseT: 4-pair STP Cat6/6A/7 cable
Optical Cable	1Gbps: Multi-mode: 0 to 550 m, 850 nm (50/125 μm); 0 to 2 km, 1310 nm (50/125 μm) Single-mode: 0 to 10 km/ 30 km/ 40 km, 1310 nm (9/125 μm); 0 to 50 km/ 60 km/ 80km/ 120 km, 1550 nm (9/125 μm) 2.5Gbps Multi-mode: 0 to 300 m, 850 nm (50/125 μm); Single mode: 0 to 2 km/ 15 km/ 40 km, 1310 nm (9/125 μm); 0 to 40 km/ 80 km/ 100km, 1550 nm (9/125 μm) WDM 1Gbps: Single-mode: 0 to 10 km/ 20 km/ 40 km/ 60 km, 1310 nm (9/125 μm); 0 to 80 km, 1490 nm (9/125 μm); 0 to 10 km/ 20 km/ 40 km/ 60 km/ 80 km, 1550 nm (9/125 μm) WDM 2.5Gbps Single-mode: 0 to 5 km/ 20 km/ 40 km/ 60 km, 1310 /1550nm (9/125 μm); 0 to 80 km, 1490/1550 nm (9/125 μm) 10Gbps Multi-mode: 0 to 300 m, 850 nm (OM3 50/125 μm); Single mode: 0 to 10 km/ 20 km, 1310 nm (9/125 μm); 0 to 40 km/ 80km/ 100 km, 1550 nm (9/125 μm) WDM 10Gbps Single-mode: 0 to 10 km/ 20 km/ 40 km/ 60 km, 1270/1330 nm (9/125 μm); 0 to 80km, 1490/1550 nm (9/125 μm)
LED	Per unit: Power 1 (Green), Power 2 (Green), FAULT (Red); RM(Green) 10/100/1000T Ethernet port: Link/Activity (Green) 1G/2.5G/10G fiber: Link/Act (Orange) PoE: Link/Act (Green, PoE model)
DI/DO	2 Digital Input (DI): Level 0: -30~2V / Level 1: 10~30V Max. input current: 8mA 2 Digital Output (DO): Open collector to 40 VDC, 200mA
PoE Budget (PoE model)	240W @48VDC (48V model) (50~56VDC input is recommended for 802.3at/bt 30W/60W applications) 80W @24VDC (24VI model) Maximum current: 5A Higher PoE budget can be applied upon request. **
PoE pin assignment (PoE model)	RJ-45 port # 1~#8 support IEEE 802.3at/af End-point, Alternative B mode. Positive (VCC+): RJ-45 pin 4,5. Negative (VCC-): RJ-45 pin 7,8. RJ-45 port # 1~#8 support IEEE 802.3at/af/bt

	End-point, (-PBT model)
PoE Type (PoE model)	IEEE802.3af/at (Type 1, PoE) IEEE802.3at (Type 2, PoE+) IEEE802.3bt (Type 3, PoE++, -PBT model)
Operating Humidity	5% ~ 95% (Non-condensing)
Operating Temperature	-20°C~60°C / -40°F~140°F (Standard model) -40°C~75°C / -40°F~167°F (-E model)
Storage Temperature	-40°C~85°C / -40°F~185°F
Power Supply	PoE model: Dual DC input, 44~56V with Ethernet galvanic isolation (48V model) Dual DC input, 9V~36V with PoE and Ethernet galvanic isolation (24VI model) Non-PoE model: Dual DC input, 9V~36V with Ethernet galvanic isolation (24VI model)
Power Consumption	Max. 33.6W exclude PoE load
Case Dimension	Metal case. IP-30, IPGS-L6408XSFP 95.84 (W) x 135 (D) x 163 (H) mm IGS-L6408XSFP 74 (W) x 135 (D) x 163 (H) mm
Weight	1400g (IGS-L6408XSFP) 1800g (IPGS-L6408XSFP, 48V) 1950g (IPGS-L6408XSFP, 24VI)
Installation	DIN Rail and Wall Mount** Design
EMI & EMS	EN55032:2020 EN55035:2020 FCC IEC / EN 61000-6-2:2019 IEC / EN 61000-6-4:2019 IEC 61000-4-2:2008 IEC 61000-4-3:2020 IEC 61000-4-4:2012 IEC 61000-4-5:2017 IEC 61000-4-6:2015 IEC 61000-4-8:2009 EN 55011:2016 BS EN55032:2020 BS EN55035:2020 BS EN61000-4-2:2009 BS EN61000-4-3:2020 BS EN61000-4-4:2012 BS EN61000-4-5:2017 BS EN61000-4-6:2015 BS EN61000-4-8:2010"
Safety	EN IEC 62368-1
MTBF	TBC (standards: IEC 62380)
Warranty	5 years
Software Specification	
Lantech OS3 Platform	Download Software Datasheet

*Future release

**Optional

ORDERING INFORMATION

- **IPGS-L6408XSFP-48V-PBT.....P/N: 8350-85901**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/at/bt for 60W budget OS3 Managed Ethernet Switch; dual 44~56VDC input w/ Ethernet galvanic isolation; -20°C to 60°C; IP30 housing
- **IPGS-L6408XSFP-48V-PBT-E.....P/N: 8350-85911**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/at/bt for 60W budget OS3 Managed Ethernet Switch; dual 44~56VDC input w/ Ethernet galvanic isolation; -40°C to 75°C; IP30 housing
- **IPGS-L6408XSFP-24VI-PBT.....P/N: 8350-85921**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 at/af/bt OS3 Managed Ethernet Switch; dual 9~36VDC input w/ PoE & Ethernet galvanic isolation; -20°C to 60°C; IP30 housing
- **IPGS-L6408XSFP-24VI-PBT-E.....P/N: 8350-85931**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 at/af/bt OS3 Managed Ethernet Switch; dual 9~36VDC input w/ PoE & Ethernet galvanic isolation; -40°C to 75°C; IP30 housing

- Ethernet galvanic isolation; -40°C to 75°C; IP30 housing
- **IPGS-L6408XSFP-48V.....P/N: 8350-859**
8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/af OS3 Managed Ethernet Switch; dual 44~56VDC input w/ Ethernet galvanic isolation; -20°C to 60°C; IP30 housing
 - **IPGS-L6408XSFP-48V-E.....P/N: 8350-8591**
8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/af OS3 Managed Ethernet Switch; dual 44~56VDC input w/ Ethernet galvanic isolation; -40°C to 75°C; IP30 housing
 - **IPGS-L6408XSFP-24VI.....P/N: 8350-8592**
8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/af OS3 Managed Ethernet Switch; dual 9~36VDC input w/ PoE & Ethernet galvanic isolation; -20°C to 60°C; IP30 housing
 - **IPGS-L6408XSFP-24VI-E.....P/N: 8350-8593**
8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/af OS3 Managed Ethernet Switch; dual 9~36VDC input w/ PoE & Ethernet galvanic isolation; -40°C to 75°C; IP30 housing
 - **IGS-L6408XSFP-24VI.....P/N: 8350-8595**
8 10/100/1000T + 4 1G/2.5G/10G SFP+ OS3 Managed Ethernet Switch; dual 9~36VDC input w/ Ethernet galvanic isolation; -20°C to 60°C; IP30 housing
 - **IGS-L6408XSFP-24VI-E.....P/N: 8350-85951**
8 10/100/1000T + 4 1G/2.5G/10G SFP+ OS3 Managed Ethernet Switch; dual 9~36VDC input w/ Ethernet galvanic isolation; -40°C to 75°C; IP30 housing

OPTIONAL ACCESSORIES

Software package

Please refer to the [software datasheet](#)

48~54VDC DIN Rail Power for 802.3at Applications

- **NDR-480 Series** 480W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)
- **NDR-240 Series** 240W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)
- **NDR-120 Series** 120W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C; For 115VAC, please refer to derating curve on NDR-120 Series datasheet)

Mini GBIC (SFP)

- | | |
|---|---|
| ■ 8330-162D-V1 MINI GBIC 1000SX (LC/0.5km) Transceiver | Transceiver |
| ■ 8330-163D-V1 MINI GBIC 1000SX2 (LC/2km) Transceiver | ■ 8330-194D-V1 10G Base SFP+ LR, Single-mode (LC/10km) Transceiver |
| ■ 8330-165D-V1 MINI GBIC 1000LX (LC/10km) Transceiver | ■ 8330-223D-V1 10G Base SFP+ LR, Single-mode (LC/1310nm/20km) DDM Transceiver |
| ■ 8340-0591D-V1 MINI GBIC 1000LHX (LC/40km) Transceiver | ■ 8330-225D-V1 10G Base SFP+ LR, Single-mode (LC/1310nm /40km) DDM Transceiver |
| ■ 8330-166D-V1 MINI GBIC 1000XD (LC/50km) Transceiver | ■ 8330-205D-V1 10G Base SFP+ LR, Single-mode (LC/1550nm/40km) DDM Transceiver |
| ■ 8330-169D-V1 MINI GBIC 1000XD (LC/60km) Transceiver | ■ 8330-209D-V1 10G Base SFP+, Single-mode(10km) Transceiver (WDM 1270) |
| ■ 8330-167D-V1 MINI GBIC 1000ZX (LC/80km) Transceiver | ■ 8330-210D-V1 10G Base SFP+, Single-mode(10km) Transceiver (WDM 1330) |
| ■ 8330-170D-V1 MINI GBIC 1000EZ (120km) Transceiver | ■ 8330-200D-V1 10G Base SFP+, Single-mode(20km) Transceiver (WDM 1270) |
| ■ 8330-168-V1 MINI GBIC 1000T (100m) Transceiver | ■ 8330-201D-V1 10G Base SFP+, Single-mode(20km) Transceiver (WDM 1330) |
| ■ 8330-188D-V1 LTSFP-1000BX-10KM Transceiver (WDM 1310) | ■ 8330-202D-V1 10G Base SFP+, Single-mode(40km) Transceiver (WDM 1270) |
| ■ 8330-189D-V1 LTSFP-1000BX-10KM Transceiver (WDM 1550) | ■ 8330-203D-V1 10G Base SFP+, Single-mode(40km) Transceiver (WDM 1330) |
| ■ 8330-186D-V1 LTSFP-1000BX-20KM Transceiver (WDM 1310) | ■ 8330-206-V1 10G/5G/2.5G/1000Base-T SFP, 3.3V,30m (10G) 50m (2.5G/5G) 100m (1G); -10~70°C (only used from 18V~56VDC power input, maximum two ports) |
| ■ 8330-187D-V1 LTSFP-1000BX-20KM Transceiver (WDM 1550) | |
| ■ 8330-180D-V1 LTSFP-1000BX-40KM Transceiver (WDM 1310) | |
| ■ 8330-182D-V1 LTSFP-1000BX-40KM Transceiver (WDM 1550) | |
| ■ 8330-181D-V1 LTSFP-1000BX-60KM Transceiver (WDM 1310) | |
| ■ 8330-183D-V1 LTSFP-1000BX-60KM Transceiver (WDM 1550) | |
| ■ 8330-184D-V1 LTSFP-1000BX-80KM Transceiver (WDM 1490) | |
| ■ 8330-185D-V1 LTSFP-1000BX-80KM Transceiver (WDM 1550) | |
| ■ 8330-262D-V1 MINI GBIC 2.5G 850nm VCSEL (LC/0.3km) Transceiver | |
| ■ 8330-263D-V1 MINI GBIC 2.5G 1310nm FP (LC/2km) Transceiver | |
| ■ 8330-265D-V1 MINI GBIC 2.5G 1310nm DFB (LC/15km) Transceiver | |
| ■ 8330-193D-V1 10G Base SFP+ SR, Multi-mode (LC/300m) | |

All SFPs ended with D are with Diagnostic function

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